

Vermont Yankee Power Uprate Meeting



Nuclear Regulatory Commission
March 31, 2004

Enclosure 14

Agenda

- Opening remarks
- Power uprate review process
- Inspection program
- Status of NRC review of the Vermont Yankee power uprate application
- Concluding remarks
- Questions and answers

Nuclear Regulatory Commission

Protecting public health and safety

- Why we are here tonight
- What we hope to accomplish
 - ▶ Convey the robustness of power uprate review process and inspection program
 - ▶ Listen to your concerns

Nuclear Regulatory Commission

- What we will discuss
 - ▶ Where we are in the review process
 - ▶ Next steps and opportunities for public participation

- What we are unable to discuss
 - ▶ Results of our review - More analysis and inspection are needed

- We will be back

Extended Power Uprate Review Process

Tony McMurtray
NRC Project Manager for the Power Uprate Program

License Amendment Process

- Amendment request submitted
- NRC reviews application for completeness
- Public Notification (Federal Register Notice)
 - Public Comments & Hearing Rights
- Technical Safety and Regulatory Review
 - Preparation of Safety Evaluation
- Legal Review
- Preparation and Issuance of Amendment

Extended Power Uprate Review

- Review now conducted using a new Review Standard
- 17 technical groups in NRC involved
- 4000 staff-hours
- Reviews typically result in 100 to 200 questions to the plant owner
- NRC has reviewed the engineering approach for power uprates used by General Electric (a key contractor supporting the power uprate)

Review Standard

Factors Considered in Development of Review Standard

- Standard Review Plan for the review of the safety analysis reports for nuclear power plants
- Maine Yankee Lessons Learned
- Public comments
- Lessons learned from previously reviewed EPU applications
- Operating experience from plants with approved EPUs
- Interactions with the Advisory Committee on Reactor Safeguards

Purpose of the Review Standard

- Defines a disciplined process for and scope of EPU amendment reviews
- Points to guidance for technical review
- Includes template safety evaluations for documenting NRC review

Safety Review Process

- The plant owner must provide sufficient justification that safety is maintained under uprated power conditions
- Review is based on the *current licensing basis* for the plant
- Vermont Yankee is the first plant where the NRC is using the Review Standard

Review Effort

- Review Standard
- Review of information submitted by plant owner and other material
- Questions to the licensee
- Previous experience with power uprates and generic topical reports
- On-site audits, if appropriate
- NRC conducts its own calculations

Previously Approved EPU's at Boiling Water Reactors

Plant	Year Approved	Uprate %
Monticello	1998	6.3%
Hatch 1&2	1998	8% per unit
Duane Arnold	2001	15.3%
Dresden 2&3	2001	17% per unit
Quad Cities 1&2	2001	17.8% per unit
Clinton	2002	20%
Brunswick 1&2	2002	15% per unit

Power Uprate Information

Available at NRC's Public Website

[Http://www.nrc.gov/reactors/operating/licensing/power-uprates.html](http://www.nrc.gov/reactors/operating/licensing/power-uprates.html)

Summary

- The plant owner must make the safety case for the power uprate
- Extensive review effort by the NRC
- Review Standard incorporates Maine Yankee Lessons Learned and operating experience
- Vermont Yankee is the first plant where NRC is using the new Review Standard

Inspection Program

Stu Richards

NRC Manager responsible for Inspection Program

Reactor Oversight Process

- NRC inspectors onsite
- Additional inspectors from the regional office
- Plant parameters are also tracked by the NRC as indications of performance
- If a plant's performance declines NRC inspection and oversight increase
- NRC conclusions about Vermont Yankee performance are available on the NRC website

Inspections Focused on Engineering

- A number of NRC inspections have assessed Vermont Yankee engineering
- NRC's inspection program requires an engineering inspection every 2 years
- Vermont Yankee's performance in the engineering area is considered to be generally good
- By law, Vermont Yankee is required to report deficiencies that meet threshold criteria

Previous Engineering Team Inspections

- Architect/Engineer inspection - 1997
- Followup to Architect/Engineer - 1997
- Basis for Maintaining Operations Process-1998
- Pre-ROP Engineering Core - 1998
- ROP Safety System Design - 2000 & 2002

NRC Regulatory Path VY Design Basis Reconstitution

- NRC engaged VY for Design Basis Reconstitution in late 90's
- NRC conducted an extensive review of the Licensee's Design Basis Reconstitution
- Inspections continue to review Design Basis
- New NRC requirements imposed, as necessary

Inspection Activities for Power Upgrades

- Special inspections are conducted to support the NRC review of a power upgrade which include the following areas:
 - Flow assisted corrosion
 - Erosion Corrosion programs
 - Testing of safety functions
 - Other areas based on NRC review of application

Status of NRC Review

Rick Ennis
NRC Project Manager for Vermont Yankee
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Vermont Yankee Application

- Application and 3 supplements submitted in September and October 2003
- Public meeting held in October 2003
- NRC determined more information was required
- NRC accepted the application for review in February 2004
- NRC expects to complete its review by January 31, 2005

Status of Technical Review

- NRC has already provided approximately 60 questions to Entergy as part of the technical review. Entergy responded on January 31, 2004
- We anticipate more questions as the detailed review continues

Opportunities for Public Involvement

- Federal Register notice will be posted to the NRC Web site:

[Www.nrc.gov/what-we-do/adjudicatory/hearing-license-applications.html](http://www.nrc.gov/what-we-do/adjudicatory/hearing-license-applications.html)

Provides an opportunity to request a hearing

High Focus Issues

- Steam dryer integrity
- Flow-induced vibration issues
- Flow-accelerated corrosion
- Power uprate testing
- Grid stability
- Emergency core cooling system performance

Contact Information

- NRC contact: Rick Ennis, rxen@nrc.gov
- Power uprate review standard is available on the NRC Web site at www.nrc.gov/reactors/operating/licensing/power-uprates.html.
- Notice of opportunity to request a hearing will be available at www.nrc.gov/what-we-do/regulatory/adjudicatory/hearing-license-applications.html

Concluding Remarks

Questions and Answers
